REMARKS

The Examiner is thanked for the performance of a thorough search.

Claims 1, 13, and 39-41 have been amended. Claims 7-12, 26-38, and 45-47 have been canceled. Claims 48-69 have been added. Hence, Claims 1-6, 13-25, 39-44, and 48-69 are pending in the present application.

New Claims 48-53, 54-66, and 67-69 have essentially the same scope as canceled Claims 7-12, 26-38, and 45-47, respectively, except in a different computer-readable medium format.

Each issue raised in the Office Action mailed May 31, 2007 is addressed hereinafter.

I.   ISSUES RELATING TO THE CITED ART

    A.   INTRODUCTION

Each of the independent claims in the present application includes at least two features that are not described or suggested in the cited references. For example, each of independent Claims 1, 13, and 39 comprises the features of: (1) **receiving requests** for information **while performing a validation operation on an XML-based stream**; and (2) **responding to the requests with information** which includes annotations about an XML element currently being validated (Claim 1) or information about the state of the validation operation (Claims 13 and 39).

It is respectfully submitted that the references cited in the Office Action, whether taken alone or in combination, do not describe or suggest at least these two features of independent Claims 1, 13, and 39. Detailed arguments for each independent claim are provided below.

    B.   INDEPENDENT CLAIM 1

Claim 1 was rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Fry et al.,

U.S. Patent Application Publication No. US 2003/0163603 ("FRY") in view of Chen et al.,

U.S. Patent Application Publication No. US 2003/0018666 ("CHEN"). The rejection is

respectfully traversed.

Claim 1 comprises the features of:

while an XML processor is performing a validation operation on an XML-based input stream, performing the steps of:
while validating a particular XML element in said XML-based input stream, causing said XML processor to generate one or more messages that indicate how to process said particular XML element **other than validating said particular XML element, by identifying one or more annotations** that are associated with said particular XML element; and
responding to a request for information about said particular XML element **by providing said one or more messages**.

Thus, Claim 1 comprises the features of: <u>**while an XML processor is performing a validation**</u>

<u>**operation on an XML-based input stream**</u>, performing the steps of: (1) responding to a

request for information about said particular XML element by providing said one or more

messages; and (2) causing the XML processor to generate the one or more messages while

validating a particular XML element from the stream, where the one or more messages indicate

how to process the particular XML element other than validating by identifying one or more

annotations. It is respectfully submitted that the above features are not described or suggested

by FRY and CHEN.

<u>Responding to Requests While Performing a Validation Operation</u>

The Office Action asserts that in paragraph [0023] FRY describes a validating parser

that is equivalent to the XML processor featured in Claim 1. This assertion is incorrect.

In general, FRY describes a data binding framework that can provide a mapping from

Java objects to XML elements and from XML elements to Java objects. (FRY, paragraph

[0022]). More specifically, FRY describes a method for compiling a set of schema objects into

Java classes; the Java classes may later be instantiated into Java objects that are used to store the elements of an XML document. (FRY, paragraph [0023]). Significantly, however, FRY does **not** describe or suggest any techniques or components that are capable of receiving requests and responding to the requests **while** XML validation operations are being performed, as featured in Claim 1.

For example, in paragraph [0023] FRY states:

A schema-aware validating parser can validate an XML document against an XSD schema and can report any discrepancies.

While the above passage from FRY may be describing a schema-aware validating parser, there is nothing in FRY that describes or suggests that such validating parser is capable of receiving requests and responding with discrepancies **while** performing a validation operation on an XML document. In fact, if anything the above passage clearly suggests that discrepancies between the XML document and a schema are **reported** **AFTER** the validation of the XML document **is completed**. In addition, the discrepancies reported by the validating parser of FRY are differences between an XML document and a schema, and are not equivalent to the annotations featured in Claim 1. For these reasons, FRY does not describe or suggest the feature of Claim 1 of **responding to a request for information** about said particular XML element **by providing said one or more messages** **while** **an XML processor is performing a validation operation on an XML-based input stream**.

The Office Action also asserts that in Fig. 5b and in paragraph [0070] CHEN describes this feature of Claim 1. This assertion is also incorrect.

In general, CHEN describes mechanisms for automatically presenting data received from a relational database into an XML-based EDI format, and for depositing data in XML-based EDI format into a database. (CHEN, paragraphs [0017]-[0020]). More specifically, in

Fig. 5b and in paragraph [0070] CHEN describes the structure and content of a EDI validation table that may be used in the first stage of a process of retrieval of data from a database into an XML document. (CHEN, paragraph [0067].) Specifically, the EDI validation table described in Fig. 5b is populated in preparation for extracting data from the database; this EDI validation table records dictionaries for the elements tables and validation tables (see paragraph [0068], second sentence). Paragraph [0070] further describes how the EDI table may be populated by a parser.

Significantly, however, neither Fig. 5b nor paragraph [0070] nor any other passage from CHEN describes or suggests that an XML parser is capable of **responding to a request for information** about an XML element that is being validated **by providing one or more messages <u>while</u> an XML processor is performing a validation operation on an XML-based input stream**, as featured in Claim 1. While paragraph [0068] of CHEN may be describing that parsers can scan tables (such as the EDI validation table depicted in Fig. 5b and described in paragraph [0070]), there is absolutely nothing in CHEN that describes or suggests that a parser is capable of responding to requests <u>**while validating**</u> XML elements from an XML-based stream.

For the above reasons, FRY and CHEN do not describe or suggest the feature of Claim 1 of **responding to a request for information** about a particular XML element **by providing one or more messages <u>while</u> an XML processor is performing a validation operation on an XML-based input stream**.

<u>Responding to Requests With Messages Identifying Annotations</u>

Claim 1 comprises the feature of: while an XML processor is performing a validation operation on an XML-based input stream, responding to requests by providing one or more

messages that identify **annotations indicating how to process an XML element other than validating**.

The Office Action asserts that this feature is described in Figs. 8a-b and in paragraph [0067] of CHEN. Specifically, the Office Action asserts that the name/value pairs depicted in Figs. 8a-b of CHEN correspond to the annotations featured in Claim 1. These assertions are incorrect.

In paragraph [0067], CHEN describes that the third stage of a process for retrieval of data from a database involves annotating a target DTD, which is subsequently used to format the data extracted from the database into an XML document (see also paragraph [0074]). Thus, these paragraphs from CHEN at most describe that an annotated DTD may be used to format data retrieved from a database. Significantly, however, neither these nor any other paragraphs from CHEN describe or suggest **providing** annotation information in response to requests **while performing a validation operation** on an XML-based input stream, as featured in Claim 1.

Further, contrary to the assertion in the Office Action, Figs. 8a-b also fail to describe or suggest this feature of Claim 1. For example, Fig. 8a illustrates four relational tables that store information related to purchase orders, where the arrows in the figure illustrate foreign key relationships between the tables. (See CHEN, paragraphs [0077], [0082]). Fig. 8b illustrates how a data retrieval engine can generate a list of name/value pairs based on parameters "TS850" and "100", which list is subsequently used to retrieve data from the database. (See CHEN, paragraph [0083]; paragraph [0074] – parameter 0 is used to decide which documents to generate and parameter 1 is used to decide which data to retrieve.) Significantly, however, Figs. 8a-b of CHEN do **NOT** describe or suggest **providing** any information **in response to**

requests **while performing a validation operation** on an XML-based input stream, as featured in Claim 1.

For the above reasons, CHEN does not describe or suggest the feature of Claim 1 of: while an XML processor is performing a validation operation on an XML-based input stream, responding to requests by providing one or more messages that identify annotations indicating how to process an XML element other than validating.

For the foregoing reasons, FRY and CHEN do not describe or suggest all features of Claim 1. Thus, Claim 1 is patentable under 35 U.S.C. § 103(a) over FRY in view of CHEN. Reconsideration and withdrawal of the rejection of Claim 1 is respectfully requested.

      C.   INDEPENDENT CLAIM 13

Independent Claim 13 was rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over FRY in view of CHEN. The rejection is respectfully traversed.

Claim 13 comprises the features of:

while performing a validation operation on an XML-based input stream,
performing the steps of:
receiving a request for information about the state of said validation
operation; and
responding to said request by providing said information about said state of
said validation operation;
**wherein said information about said state of said validation operation comprises
one or more of**:
the name of a node **currently being processed**;
the data type of the node **currently being processed**;
the current validation mode for the node **currently being processed**, wherein
the current validation mode is one of strict mode, lax mode, and skip
mode;
the **current state** of said validation operation; and
annotations that are associated with the node **currently being processed**.

It is respectfully submitted that the above features of Claim 13 are not described or suggested by FRY and CHEN.

The Office Action asserts that the above features of Claim 13 are described in paragraph [0023] of FRY, and in Figs. 4a-b, 5b and paragraphs [0021], [0068], and [0102] of CHEN. This assertion is incorrect.

As discussed above with respect to Claim 1, the validating parser described in paragraph [0023] of FRY is not operable to respond to requests **while** validating an XML document. Thus, contrary to the assertion in the Office Action, FRY does not describe the feature of Claim 13 of receiving requests and responding to the requests **while performing a validation operation on an XML-based input stream**.

Further, as discussed above with respect to Claim 1, Fig. 5b and paragraph [0068] of CHEN do not describe or suggest receiving requests for information and responding with information **while performing a validation operation on an XML-based input stream**, as featured in Claim 13. In addition, while Figs. 4a-b of CHEN may be illsutrating different preparation stages for retrieval data from a database (see also paragraphs [0067]-[0068]), these figures do not describe or suggest this feature of Claim 13 either.

Paragraph [0021] of CHEN describes that prior to depositing data in a database a determination may be made whether the local system is configured to store all requested fields. However, determining whether a system is configured to store certain fields has absolutely nothing to do with receiving and responding to requests **while performing a validation operation on an XML-based input stream**, as featured in Claim 13. Similarly, paragraph [0102] of CHEN describes that errors may be issued when SQL statements that retrieve data from the database fail; however, such SQL errors are raised **automatically** and **not** in response to requests for the state of a validation operation **while** the validation operation is being performed on an XML-based input stream, as featured in Claim 13.

For the above reasons, FRY and CHEN do not describe the feature of Claim 13 of receiving requests and responding to the requests **while performing a validation operation on an XML-based input stream**.

Furthermore, Claim 13 comprises the feature of **responding to a request** by providing **information about said state of the validation operation**, where the information comprises data about a node from the XML-based stream that is **currently being validated**. Examples of such information include the name of the node, the data type of the node, the current validation mode for the node, the current state of the validation operation that is being performed in the node, and any annotations that may be associated with the node. It is respectfully submitted that FRY and CHEN do not describe or suggest this feature of Claim 13.

For the foregoing reasons, FRY and CHEN do not describe or suggest all features of Claim 13. Thus, Claim 13 is patentable under 35 U.S.C. § 103(a) over FRY in view of CHEN. Reconsideration and withdrawal of the rejection of Claim 13 is respectfully requested.

D.   INDEPENDENT CLAIM 39

Independent Claim 39 was rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over FRY in view of CHEN. The rejection is respectfully traversed.

Claim 39 comprises the features of:

> a state machine that **responds to requests for information about validating a first element in said XML-based input stream**, while validating said first element;
> wherein **said information about validating said first element comprises** one or more of:
> the name of said first element;
> the data type of said first element;
> the current validation mode for said first element, wherein the current validation mode is one of strict mode, lax mode, and skip mode;
> the current state of a validation operation currently being performed on said first element; and
> annotations that are associated with said first element.

It is respectfully submitted that the above features of Claim 39 are not described or suggested by FRY and CHEN.

The Office Action asserts that the above features of Claim 39 are described in paragraphs [0023] and [0035] of FRY, and in Fig. 5b and paragraphs [0070] and [0102] of CHEN. This assertion is incorrect.

As discussed above with respect to Claim 1, the validating parser described in paragraph [0023] of FRY does not respond to requests **while** validating an XML document. Thus, contrary to the assertion in the Office Action, FRY does not describe the feature of Claim 39 of a state machine that **responds to requests for information about validating a first element in an XML-based input stream**, **while** **validating the first element**. Further, while paragraph [0035] of FRY may be describing that a schema parser generates a schema object model, there is absolutely nothing in this paragraph which indicates that the schema parser is even performing any validation operations, let alone describe that the schema parser responds to requests **while** validating an element of an XML document.

Further, as discussed above with respect to Claims 1 and 13, Fig. 5b and paragraphs [0070] and [0102] of CHEN do not describe or suggest the feature of **responding to requests for information about validating a first element in an XML-based input stream**, **while** **validating the first element**, as featured in Claim 39.

Finally, Claim 39 comprises the feature of **responding to requests** with **information about validating an element** while the element is being validated. Examples of such information include the name of the element, the data type of the element, the current validation mode for the element, the current state of the validation operation that is being performed in the

element, and any annotations that may be associated with the element. It is respectfully submitted that FRY and CHEN do not describe or suggest this feature of Claim 39.

For the foregoing reasons, FRY and CHEN do not describe or suggest all features of Claim 39. Thus, Claim 39 is patentable under 35 U.S.C. § 103(a) over FRY in view of CHEN. Reconsideration and withdrawal of the rejection of Claim 39 is respectfully requested.

E.   NEW INDEPENDENT CLAIMS 48 AND 54

New independent Claims 48 and 54 include features similar to the features of Claims 1 and 13, respectively, except in the context of a computer-readable medium. For this reason, new Claims 48 and 54 are patentable under 35 U.S.C. § 103(a) over FRY in view of CHEN for at least the reasons given above with respect to Claims 1 and 13. Entry and allowance of Claims 48 and 54 respectfully requested.

F.   DEPENDENT CLAIMS 2-6, 14-25, AND 40-44

Claims 2-6, 14-25, and 40-44 were rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over FRY in view of CHEN.

Each of Claim 2-6, 14-25, and 40-44 depends from one of independent Claims 1, 13, and 39, and thus includes each and every feature of the corresponding base claim. Thus, each of Claims 2-6, 14-25, and 40-44 is allowable for the reasons given above for Claims 1, 13, or 39. In addition, each of Claims 2-6, 14-25, and 40-44 introduces one or more additional features that independently render it patentable. However, due to the fundamental differences already identified, to expedite the positive resolution of this case a separate discussion of those features is not included at this time. Therefore, it is respectfully submitted that Claims 2-6, 14-25, and 40-44 are allowable for the reasons given above with respect to Claims 1, 13, and 39.

Reconsideration and withdrawal of the rejections of Claims 2-6, 14-25, and 40-44 is respectfully requested.

G. NEW DEPENDENT CLAIMS 49-53 AND 55-69

Each of new dependent Claims 49-53 and 55-69 depends from one of independent Claims 48 and 54, and thus includes each and every feature of the corresponding base claim. Thus, each of Claims 49-53 and 55-69 is allowable for at least the reasons given above for Claims 48 and 54. In addition, each of Claims 49-53 and 55-69 introduces one or more additional features that independently render it patentable. However, due to the fundamental differences already identified, to expedite the positive resolution of this case a separate discussion of those features is not included at this time. Therefore, it is respectfully submitted that Claims 49-53 and 55-69 are allowable for the reasons given above with respect to Claims 48 and 54. Entry and allowance of Claims 49-53 and 55-69 is respectfully requested.

II. CONCLUSION

The Applicants believe that all issues raised in the Office Action have been addressed. Further, for the reasons set forth above, the Applicants respectfully submit that allowance of the pending claims is appropriate. Reconsideration of the present application is respectfully requested in light of the amendments and remarks herein.

The Examiner is respectfully requested to contact the undersigned by telephone if it is believed that such contact would further the examination of the present application.

A petition for extension of time, to the extent necessary to make this reply timely filed, is hereby made. If applicable, a law firms check for the petition for extension of time fee is enclosed herewith. If any applicable fee is missing or insufficient, throughout the pendency of

this application, the Commissioner is hereby authorized to charge any applicable fees and to

credit any overpayments to our Deposit Account No. 50-1302.

Respectfully submitted,

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